The Builder.

No. CXCIII.

SATURDAY, OCTOBER 17, 1846.

IF Lord Morpeth and the Government were sincere, when they stipulated that if the appearance of the Wellington colossus on the arch was not satisfactory to competent persons, after being "on liking" for three weeks, it should come down,—*down, unquestionably*, IT MUST COME. As the network of timber is removed spar by spar from before it, so do the folly of the experiment, the absurdity of the conjunction, and the greatness of the sacrifice become apparent. Its effect is even worse than we anticipated,—the destruction of the arch by the statue, and of the statue by its elevation on the arch, more complete. Every post brings us letters urging renewed efforts to remove the figure to another site, but not a single line have we received in praise of its present position, or even in defence of it. The case is hopeless: surely no one *can* praise the appearance presented who is competent and unbiassed.

A respectable morning paper, indeed, impelled perhaps by kindly feelings, is so bold as to urge, that "so far as the objection to this site, on the score of the statue being too large in its proportions for the arch, is concerned, we believe it will be found that the fault (if fault there be) will be directly the reverse;" and elsewhere says, "if any thing, the arch is too large for the statue!

It is, indeed, too large,—too lofty, considered as a pedestal, in which character alone it is regarded by the two or three journals who have in a still, small voice, endeavoured to defend what we hope will prove, the untenable position. Thus, the *Observer* says, after finding great fault with the statue,—"if the artist were called upon to erect a pedestal for his own work, it is doubtful whether he would have selected one that fits it so well in every requisite particular, namely, elevation, size, and situation."

Proh Pudor! But the fact, without stopping to deny this altogether, is, as we have repeated over and over again, that the arch was not intended to be a pedestal, but a structure,—a monument of itself, and if embellished as proposed by its architect, with a statue flanking the attic, over each column, trophies on the main piers, sculpture in relief on the face of the attic, and a quadriga on the top, of proper size as a decoration,—an accessory, not the principal,—would have been a worthy adornment of the metropolis. Used as it now is, that character has entirely disappeared; all the money expended upon it is utterly thrown away and wasted, while, as a pedestal, it is wholly inappropriate and unfit.

The artist must feel by this time how much he, individually, has lost by the obstinacy of the committee. Seen sufficiently near to the eye to distinguish all the parts, and on such a pedestal as should make its colossal size apparent, the merits of the work would be found greatly to overweigh its defects,—and the vastness of the undertaking, the labour, energy, and skill required to carry it out, which are not now felt by the beholder in the slightest degree, would gain for the sculptor the applause which he deserves.

As seen, however, on the top of the arch, where the outline alone can be embraced, it is, as a work of art, and irrespective of the inappropriate pedestal, an utter failure,—mawkish, effectless, and insipid; conveying no clear idea, exciting no lofty emotion.

We have scarcely patience to speak calmly, when we reflect on the evil done,—two monuments destroyed, two artists injured, and a whole nation in a degree disgraced.

Earnestly then we express a hope that Lord Morpeth's stipulation was not merely a blind, being satisfied that in that case, as we have already said, the statue *must* come down.

That this much desired step will expose all concerned in it to a shower of ridicule, is certain; we trust, however, that the fear of this will not operate on the decision. It is better to be laughed at for a week, than condemned for a century: and nobler to acknowledge an error and retrace your steps, than to persist in it to the injury of others.

Still, dreading lest the same determination and influence which, unnecessarily and at such great cost, lifted the enormous mass on to the arch in opposition to the will of the House of Commons, to see "how it would look," may succeed, despite the almost universal opinion, in keeping it there, without that opinion make itself loudly heard,—we would suggest that a respectful protest against its continuance on the arch, addressed to her Majesty, should be forthwith drawn up for signature, and should lie, during a specified time, at some public place for that purpose. The accomplished professor, whose personal protest we commented on a short time since, would but perform a duty he owes the public were he to imitate this measure, and would thereby entitle himself to the thanks of every lover of art, and of every man jealous for the reputation of England in matters of taste.

In the case of a recent competition, where professional assistance was desired in the selection of plans for premiums, letters appear to have been addressed, by order of the committee, to several eminent architects, stating their wish, and asking "for what amount of remuneration they would undertake the task." Whether the committee took the *cheapest* that offered, or managed to find one who, for love of art and fair play, was willing to do it for nothing, has not reached us. It seems rather a new move, however, thus to seduce even the old stagers into *a competition*, and that, too, on so low a ground as *prices*. We shall, perhaps, hear more of it.

It will not surprise us to see, one of these days, advertisements such as this, with a difference: "To architects and surveyors. Professional advice wanted, in the case Easygo *v.* Gammonall. Letters, post-paid, stating lowest price per day, including cab-hire and expenses, to be addressed to Ignatius Loyala Lofty, Esq., solicitor, of Lions Inn. Write soon, to prevent disappointment, as applicants will be numerous!!"

The Kensington Board of Guardians have set an example to competition committees which will, we trust, be imitated; and have given a lesson to disingenuous competitors, likely, when generally known, to produce a salutary effect. The guardians advertised, as our readers may have seen, premiums for the first and second best plans for a new workhouse; with the understanding that the author of the first set, if a competent person, would be employed to superintend the execution of the work. The cost was not to exceed 9,000*l.*

Twenty-two designs, some of them very elaborately displayed, were sent in; and from these the Board selected a set by a Mr. Blore, as No. 1 (chiefly because it promised more for money than the others), and a set by Mr. Allom as No. 2. When, however, the selected plans had been forwarded to the Poor Law Commissioners and precise estimates were needed, the fact came out that the building would cost nearer 18,000*l.* than 9,000*l.*; in other words, that the plans were a deception. Upon which the guardians very properly revoked their decision, returned the plans, and selected the design No. 2 for execution, provided the same can be carried out for the sum named. The injustice that would have been committed if the Board had not acted thus (and which, in the case of the Consumption Hospital hard by, *was* committeed), is too apparent to need comment.

ANNOTATIONS ON IRON.*

Few contrivances connected with the working of iron are of more value than those which perform the operations of *planeing*: by means of these powerful machines, that obdurate material, whatever its form—plane, cylinder, cone, or sphere, whether simple or in any combination, however complicated, and therefore embracing every shape which machinery can assume, can be reduced to a surface the most mathematically true, and that with the utmost facility—human labour being superseded, and human superintendence alone wanted. The advantage which a planed has over a ground surface, consists in its being exempt from those irregular masses which, upon close examination, are to be detected in the latter, and which proceed from the difficulty of obtaining an equal distribution of the grinding powder: these irregularities being absent in planed plates, their bearing points are so infinite, that if one be placed on another, it will float until by its weight it in a great measure excludes the air, when the two will adhere together with considerable force; and that with the more certainty if the very smooth surface produced by a repetition of the planing process is bestowed on them. The immense power of these machines, and the hardness of the cutting instrument—which encounters such resistance for perhaps a day together, without becoming inoperative—may be imagined, when it is considered that this resistance against the edge of the latter, in a large machine, amounts to as much as thirty tons.

Of the operation of *iron-turning*, on its largest scale, an idea may be formed by imagining the paddle-shafts, one at a time, of some immense steamer, fixed in the lathe, ten tons in weight, and revolving rapidly; while the chisel moves steadily along in its slide, and turns off, as if it were but lead, a continuous shaving of iron, perhaps thirty or forty feet long, and curled up like the worm of a screw, one of its edges, probably, split into short regular teeth like a fine comb, from the pressure of the tool, and the only food of which is a constant dropping of water upon it during its progress to and fro, either in this or the planeing process: or, it may be, the top, whether flat or hollowed, of a steam cylinder, companion to the shafts, eighty inches in diameter, and as bright as a mirror. Articles of such magnitude as these, finished with ease and unerring accuracy, by a self-acting process—the work only requiring to be placed in the lathe, and the tool to be set—the machine doing the rest, afford a fair criterion on the subject.

The importance of making good *welds* cannot be more forcibly inculcated than by adverting to the frightful loss of life which took place at Yarmouth on the 2nd of May last year, from the falling of the suspension-bridge across the river Bure, the leading cause of which, according to the report of Mr. Walker, the engineer, who was appointed by Government to ascertain the origin of the catastrophe, was the defective joining of the short pieces containing the eyes to the ends of the rods forming the chains—the appearance of the fracture

* See page 470, *ante*.

of the bar which first broke proving "that for some length of time, or from perhaps its original manufacture, the weld was imperfect—not more than one-third of the melting surface being united, and the other two-thirds presenting a rusty surface." It has been found that the welding together of different kinds of iron gives an unfavourable result. Welds made with peat are superior to those made with coal, which might be expected, since ligneous carbon, being free from sulphur or pyrites, must be better for the purpose than any fuel containing these impurities.

It is found that vibration, such as railway axles are subject to, and also, which is analogous to it, the operations of hammering, swaging, or planishing iron after it has lost its red-heat and high ductility, have the effect of reducing the fibrous texture of wrought to the crystalline structure of cast-iron (evincing an effort on the part of the metal to return from an artificial to its primal state); thereby causing it to materially deteriorate in quality, and endangering its stability wherever there is any strain to bear: but it is also ascertained, that there is nothing inherently wrong in this cold hammering, &c., for, on the contrary, if it is combined with the curative process of *re-heating and slow cooling*, the tenacity and shock-resisting quality of the iron are even much enhanced. Hence, in the case of iron trusses, for example, when the eyes of the tension and suspension rods are formed and finished, they should be brought again to a red heat, and not afterwards subjected to any percussive process.

In *Newton's Journal* for 1827, is described a method then lately discovered of rendering the hardest cast-iron soft and malleable, so that it may be welded together, or when in a cool state, bent into almost any shape by a hammer or vice; it consists in placing the casting in a pot surrounded by a soft red ore found in Cumberland and other parts of England, and setting the pot in a common oven; the doors of the latter being closed, and but a slight draught of air admitted under the grate, a regular heat is kept up for one or two weeks, according to the thicknesses and weight of the casting; the pot is then withdrawn and suffered to cool. We may imagine that from this discovery very important results might be obtained.

In the contracts of the Admiralty for chain cables for the British navy, it is (or used to be) stipulated that "the iron shall have been manufactured in the best manner from pig-iron, smelted from iron-stone only, and selected of the best quality for the purpose, and shall not have received in any process whatever subsequent to the smelting, the admixture of either the cinder or oxides produced in the manufacture of iron; and shall also have been puddled in the best manner upon iron bottoms, and at least three times sufficiently drawn out at three distinct welding heats, and at least twice properly faggotted."

"When iron once gets rust, so as to form a scale," says Smeaton, "whatever coat of paint or varnish is put on over this, the rust will go on progressively under the paint." Such being the case, it is obvious that all works in iron, whether cast or wrought, should be defended against atmospheric action before it has once cooled; for this there are many methods, but perhaps the best of all is that practised by Smeaton himself, namely, striking the iron over with raw linseed oil when at a blue heat, which fills the pores, and gives it the appearance next day of having received a coat of varnish.

It was the practice of the ancient architects, and of those also of the middle ages, to qualify their design to their materials; and hence we do not find in their works the incongruities that abound in the falsely conceived imitations of our own times. If we examine the candelabra, tripods, chairs, and other similar works of the former, as existing in marble and bronze, we find these objects, destined as they were for the same purposes, though executed in different materials, to exhibit the same general design, and be equally symmetrical, while they materially differ in their proportions and detail. In like manner, if we turn to the works of the latter, we find that it was with them a chief aim to regard the peculiar character of each material, and never, while aiming to surprise, to affect in one the characteristics of another, but, on the contrary, even appreciating the varieties to be found in one material,—as may be seen in their use of slender insulated shafts of Purbeck marble, where a more fragile description of stone, employed in the same proportions, would have had less stability, and would have conveyed also a sense of less safety. With moderns, however, this has been grievously overlooked; and accordingly we find castings of iron arrayed in a tawdry disguise of paint, which soon gets rusty, taking the place of stone, and wearing the stamp of vulgar pretension, where, had it been given its own character, no such mark of deception would have been the result. This proceeds from the primary error of misapprehending the character of the material,—first thinking ourselves called upon to imitate the massive proportions of another which is more friable in its nature, and then perceiving the obstacles to our working by hand that which we have chosen. In the days of the old architects, too, the fashion had not arisen of concealing aught that was necessary or useful; and they made it their business to render subordinate objects of utility as sightly as possible; thus, instead of the mortise-locks and edge-hinges of the present day, those essential articles became in their hands rich and beautiful ornaments—their efficiency running no risk of being impaired from any attempt to render them invisible. The varied and flowing scroll-work of the early hinges, overspreading the surface of massive oaken doors, and the elaborate specimens of smith-craft decorating antique chests and cabinets will occur to the reader, and be contrasted favourably with the bald and stealthy practices of the nineteenth century.

In contemplating the class of ancient works to which we have referred, and encouraging in our minds a sympathy with the spirit in which they were produced, we become alike forcibly impressed with their exceeding beauty and the peculiar capability of the material: reason, however, shews us that although these old examples are all executed in wrought-iron, it does not follow that we who possess an improved knowledge of the physical properties of that material, and can render it in another and more enduring form, are not, when employing it in similar works, to avail ourselves of our superior knowledge. In contending for the use of cast-iron in an ancient style of architecture, when occasion offers, we do not mean to promulgate such an erroneous idea as that of executing in cast-iron, forms which it is obvious are exclusively adapted to wrought; that would be blindly travelling the beaten track of imitation. Let it be conceded that, had the ancient architects possessed cast-iron, they would have made it subservient to their purposes; and in this supposition, let us, in using it, do so in the way they would have done, as far as imagination will assist us, disusing the pincer twists and the rivettings, and any such operations as, in this material, are impossible or no longer necessary. This will, of course, alter the character of the production; but then, the material being another, it is reasonable that its character should be as distinctive as we find those of stone, wood, and wrought-iron invariably to have been; and that where both are employed, they should respectively perform a part peculiarly their own.

But it is in the hands of science, as a material of construction, that iron has in modern times assumed its high importance. Confined no longer to the formation of locks and hinges, it appears in shapes undreamt of by those ancient artists whose clever but limited performances we have been admiring. Instead of the wooden-walls, coming ages will boast of the iron-sides of old England; our pleasant old highways, which wound accommodatingly round hill-sides, and dipped into valleys, and clambered steep uplands, have given place to iron ways, made by engineers—men of straightforward, uncompromising minds, who make our paths straight, and narrow, and level, and gauged—who, tholas-like, bore through wood and stone alike, unflinchingly and insubvertible. Our stage-coaches, too, which whilom carried six insides and twelve out, whirled along by sleek bays, and browns, and dapples, and guided by some spruce genius of the thong, have vanished in the hissing breath of the fiery and panting locomotive, who with muscles, and sinews, and nerves of iron, and a boiling current in his veins, now flies along his track, with the power of squadrons, and the speed of light, bearing a population in his train; our bridges of arched masonry are superseded by ponderous beams or vertebrated slings of iron; we export iron dwellings to our colonies, and have sent an iron church to Jamaica, not omitting its complement of stained glass. In a word, the progress of civilization is due to iron. Just fancy railways across the deserts of Arabia, and through the wilderness of America,—imagine yourself careering along from Albany to Niagara, on a pleasure-trip to see the falls, and the red Indian humbly vending, at the stations, trinkets, baskets, and mocassins, dividing your attention with the smart waiter, who tempts your palate with ices and confectionary. To portray the achievements of iron, as already accomplished, might be easy, but to conceive its latent capabilities is impossible.

HOUGHTON HOUSE, BEDFORDSHIRE,

DESIGNED BY INIGO JONES.

At a meeting of the Freemasons of the Church, held on the 8th ultimo, a paper on Houghton House, by Mr. E. W. Smith, of Bedford, was read, of which the following is the substance:—

The existing structure owes its chief historical interest to the circumstance that it was built by the celebrated Countess of Pembroke, immortalised by Ben Jonson in his justly lauded epitaph.

"Underneath this marble hearse
Lies—the subject of all verse—
Sidney's sister, Pembroke's mother.
Death—e'er thou hast slain another,
Fair and good, and learn'd as she,
Time shall throw a dart at thee!"

But the estate of Houghton was in possession of the family of the *Conquests*, who conferred upon the parish and manor this additional name, and it has since been recognized as Houghton Conquest. The manor was in possession of this family in the thirteenth, and probably in the twelfth century. Sir John Conquest, one of the Bedfordshire knights, served in the army of Henry III. The mansion was called Houghton, or Conquest Bury, and some small remains still exist of it in a farmhouse, but I have not yet had an opportunity to examine them.

The male line of this family became extinct in Benedict Conquest, father of Lady Arundel, and the estate was sold to Lord Ossory's father in 1741.

Houghton, or Dame Ellersbury Park, was in the beginning of James First's reign occupied by Sir Edmund Conquest, as keeper. In 1605 the king, in one of his "progresses," honoured Sir Edmund with a visit, and attended service with all his court at the parish church, which is recorded in a curious MS., written by Dr. Zachary Grey, editor of Hudibras, and since handed down through the successive rectors of the parish; and I am indebted to the kindness of the present incumbent, the Rev. H. J. Rose, both for a sight of the MS., and also for several valuable notices which I shall have occasion to insert in this sketch of Houghton Conquest.

"It appears from certain records in the possession of his grace, the Duke of Bedford, that in the year 1615 Sir Edmund Conquest, lessee under the crown of Houghton Park, made over his interest in it to the Lady Mary Sidney, then a widow, through her trustees, Matthew Lister and Leonard Welstead.—In 1630 the two estates, united in the Bruce family, were granted by charter to one Ditchfield and others, who conveyed it to Sir Francis Clerke, whose heirs sold it to the Pigots, and they again to the Earl of Aylesbury, in 1675. In 1738 it was purchased of his family by the Duke of Bedford, and from thence passed with Houghton Park into the hands of the Earl of Upper Ossory."

The present house (now in ruins), on a totally different site to the old residence of the Conquests, was built by the celebrated Mary Sidney Herbert, Countess of Pembroke, about the year 1615, or between that year and 1621, when she died. There is little doubt but that Inigo Jones was the architect, both from the evidence of style, and also that he was much patronised by William Earl of Pembroke, son

* See Parry's "Illustrations of Bedfordshire," p. 83.

of the countess, and for whom Jones built a great portion of Wilton.

The house is admirably situated on the brow of an eminence, commanding extensive views over the wide spread vale of Bedford; it had noble avenues of trees leading down the hill into the valley, and also carried across the estate in various directions, forming a picturesque and interesting park, though on a small scale; the want of water, however, is felt in the landscape.

The house, though dismantled and in ruins, presents many fine features, great depth of shadow, bold projections, and costly decorations; it is built of brick, with stone facings; the architraves, mullions, and dressings generally, being richly and deeply cut in a rather soft, but close-grained freestone, called Totternhoe. Some parts of it approximate to the style of Palladio. The centre of the north front is similar to the interior of the Convent della Carita, at Venice, which was built by Palladio after the plan of a palace in ancient Rome. The centre of this front is sufficiently perfect to give a good idea of its pristine beauty. A noble recessed portico, 22·5 × 12·3 forms the centre of the ground story, having four Doric three-quarter columns, with arches between, and two in the return angles, standing on a base, from the middle of which a flight of steps descended, to probably a terrace or garden lawn. Three arches support the entablature and gallery of the Ionic Loggia, similarly arched, which is again surmounted by a story, having two Corinthian or composite pilasters between three recessed niches, the centre one pierced as a window, and each ornamented with a sculptured shell in the archings, and above which there is a small pediment supported by scrolls; a coat of arms, with supporters, filled the panel under the pediments. The two principal apartments on this side the house had noble bay windows extending to the first-floor, the chamber story above which, it may be presumed, was terminated by an ogee moulding, according to a print, taken from elevations, late in the possession of Lord Holland.

The west, or garden front, is also of an ornamental character—the centre forming a recessed portico of Doric architecture, with open loggia above in Ionic; above which, it it is supposed to have terminated, in a story of Corinthian or composite, with a pediment. The metopes, between the Doric triglyphs, have the armorial bearings of the Sidney and Pembroke families, sculptured in reliefs alternately with monograms.

The south front, or principal entrance, was plainer than the two sides above described, but nevertheless formed an imposing approach to the mansion. It consisted of a centre tower, beneath which was the porch; on either side, deeply recessed, were the large mullioned and double transom windows of the Great Hall, divided, as I presume, into two portions, beyond which were two noble projections on either side, forming a library of 36 feet, and a dining hall of about 40 feet in length; the whole building flanked at the angles by four towers, and measuring 123 by about 84 feet. The porch tower appears to be rather a peculiar feature.

Houghton House, while in the possession of the Duke of Bedford, was repaired, and the interior fitted up by Sir W. Chambers for the Marquis of Tavistock (grandfather of the present duke), who was killed in hunting at this seat, to which he was extremely partial. Lord Ossory afterwards resided at it for a short time. And in 1794, it was dismantled and rendered a ruin.

It is to be regretted that a structure, built for centuries, should have been purposely dilapidated and ruined, the situation of which was remarkably fine, the park well timbered and convenient, and the materials of the house of so firm and strong a character, that even now, after an exposure of half a century to the weather, the brickwork and stucco in the interior are so hard and polished, as to resist considerable efforts to penetrate the walls. Some small remnants of painted stucco are discernible, but mutilated by that spirit of vulgar mischief, whose delight seems to be in obliterating the remains of ancient times, and fastening a reproach (but too well founded) on our national character.

Having thrown together these few disjointed and hasty notes and observations, I must deprecate censure by pleading my incompetence to treat upon a subject which, strictly speaking, belongs to a professional man, but as your society have been kind enough to compliment me by affixing to my name the honorary title of corresponding delineator for this county, I cannot do less than tender to them my acknowledgments, by sending the result of a few agreeable hours, passed during this most enjoyable summer, in the groves and ruins of Houghton Conquest.

NEWLEAFE DISCOURSES ON ARCHITECTURE.

THE STATUE ON THE ARCH—PRECEDENT—REASON.

Sir,—By your kindness I have a character to lose. In your last number (unwittingly, I will admit,—but none the less therefore forcibly), that character is assailed. For I am held up as affording, but another lamentable instance of the deep-rooted and universal "flunkyism" of man.

Et tu Budownike! the same whom I remember with gratitude as coming so boldly forward—*the first* to give me "a hearty *bravissimo!*" and at a time when bravissimos seemed likely to be few! To be pilloried, and by him, as "cowardly" and "flunky,"—"hanged" as a vile "recreant,"—and finally "dismissed" to silence and the grave "unwept, unhonoured, and unsung," as altogether an "ugly subject!" and at the very moment too, when poor human nature was haunting me with the dread word *publication of heresy*, and whispering maliciously that there exists a thing by name *discretion!*

But it may be that the error lies with myself. Perhaps I ought to have apologised to you and your readers for having withdrawn from the pages of The Builder, to deliver myself into the hands of the book-printer. By your favour I was permitted to undertake a public service; and I certainly cannot complain when I find myself reminded that that service has never been completed. When I commenced my letters, nothing could have been farther from my thought than the publication of "The Newleafe Discourses;" my intentions were limited by the simple idea of a few hasty sketches to do a little quiet good. I have been guilty of no fraud; for if it had been possible, I should have very much preferred to advance the good truth by the medium of your journal, so much more widely circulated than my little volume can ever be expected to be. But the subject warmed with me, widened, deepened. I had known myself for long as a heretic; but it was soon apparent that the full volume of my heresy was undisclosed even to myself. My honesty prompted me too, to say very much that I feared The Builder never would endorse. And last, not least, I could throw the letters of a year into the reading of a day. And so it happened that "The Young Architects of England, by one of themselves," changed form and purpose. For which, if I have sinned against you, I pray forgiveness.*

Now that I have put pen to paper, with your leave I will add "one *more* voice to the outcry already so justly raised against the erection of the statue of the Duke of Wellington over the arch at Hyde-park-corner." On the afternoon of the memorable Tuesday, I was aroused from a little reverie by the well-known knock and ring of dear Dr. Verditurus. Another moment and it was, "O my friend, Mr. Newleafe, I pray thee to accompany me straightway unto the street Piccadilly; for the image of the Duke Wellington and his horse—is it not all strung up into the air with a string! We shall obtain an excellent view thereof." So to Piccadilly we went.

Arrived, the Doctor soon perceived the form of his porter, "Master Hugh," surveying the suspended sculpture with a keen eye. "O Master Hugh," quoth my friend, "tell us now what is thine opinion of this image: for I know thee for a man of unsophisticated imagination." "Weel raley, Doctor," returned he (Hugh is a shrewd old Northerner)—"Weel raley, Doctor, I jist div not like to say't; but raley that horse—raley it diz not please my notions ava'. Na! the Lord preserve's? saw ever ye or mortal boddy sic a daft like beast? Noo, I'll jist speak rael honest, an' tell ye my rael opingon. It jist diz not mind me of nothing ither than a stirky, at the shore o' Ebberdeen when they're pettin' him aboord ship wi' a cran'. For ye must cknow that they pet a kind o' belt oonder the belly o' the beasty, an' hyste him up wi' a cran', an' swing him aboord; considerin' this to be maist easy for the men an' confortablest for the craters themsels. An' so, in coorse, when the puir nouty's i' the air he leuks feel eneugh, as ye may verra weel suppose, an' his leggies hang dingle-dangle jist like that for a' the wordl, and his een an' luggies gang skeery-skarey like that jist kisactly, as if althegither not cknowin' whether to tak' it in earnest or in fun. Weel, Gweed forgie me, Doctor, an' a' boddy, but gif the horsy wad jist cry *Coo-mo-o* noo, the thing wad be raley perfit an' complete."

"Thou knowest," said the doctor to me afterwards, "that I am one who loveth not to say hard sayings. Neither is Master Hugh, my man, one who rejoiceth in acidulated discourse. But what couldest thou object, dear friend of mine, were I to propose for this image support from above? Would it not be appropriate? for I agree with Master Hugh. Novel likewise? a thing much to be desired in these our days. Even so; and likely, as well as any other mode, to please all parties, my friend,—even the Knight Frederick Trench himself, whose ingenious argumentation it is, that the Duke Wellington being a most unprecedented man, it is well that we place his effigy in a most unprecedented position."

But Mr. Newleafe is a cautious person in sculpture; so he changed the subject.

If it were not exceeding my licence I might expatiate upon the wonderful ingenuity of the "Artist" who accomplished, for the small sum of thirty thousand pounds, the extraordinary conception of a large Duke astraddle on a large horse: and, secondly, I might expose my reasons for perfect concurrence with the Dr.'s opinion, that "the Duke his horse undoubtedly appeareth to have been a wonderfully unlovely beast;" but what I have at present to say refers more particularly to the idea—*The statue on the Arch.*

The placing of the sculpture with the profile to the front I shall take no notice of. It is not only a matter much more difficult in argument, but it is also a point at present of much less importance, than the general fact of putting that statue, in any way whatever, on that "bad eminence."

Your humble servant and Sir Frederick Trench are quite and cordially at one in an utter contempt for precedent. I will frankly confess this,—I was really prepared to defend (if possible) the statue on the arch! Come, thought I, here's an opportunity, now, for fastening quite a quarrel on Mr. Precedent. *If possible*, of course. But it wouldn't do. I own that I must in this case—not *defend Precedent*, mark you—but perfectly *agree with it*. The thing is monstrously bad.

The letter of "C. R. C." in *The Times* is a very able criticism of the question. I have nothing to add to it. But I have a good deal to abstract from it, if you will,—to lop off the evil and rotten branches, that the good and sound may be the better and the sounder,—to clear away the weak sophistry, that the strong truth may the more strongly appear.

For the *precedent* on which Professor Cockerell so hugely dwells, has nothing whatever to do with the matter. The question is, This statue on this Arch,—on its own merits. Ancient Romans have no authority in the case any more than ancient Kamschatkans. We may take notice of their practice as *advice*,—we may give it due weight as the result of their study, due value as suggestive of principles to the mind; but *to adhere to it* on account of *precedent* is to wear pigtail and powder because our fathers did so.

"In a question of this nature," says the Professor, "we naturally turn to classical examples." Not at all, we do nothing of the kind. We naturally turn to "the true end and aim of Art"—the principles of Nature and Reason, on which if the classical examples be not themselves dependent, said classical examples with all their classicality are absurd and bad. A pretty pass have we come to indeed when in a question of this nature we—we

* To the book which the letters in question and others in addition, now form,—"The Newleafe Discourses on the Fine Art Architecture,"—we shall refer hereafter. We may, in passing, express surprise that the fact of their previous appearance in our pages does not appear to be mentioned in it.

turn to *classical examples!* A fine tale to tell of this nineteenth century and its England, that we turn to the poor old Roman as a god, just because it has been handed down an empty dogma—mere play upon big sound—*vox et preterea* NIHIL—to turn to *classical precedent!* Put Bellori back into the book-case, Mr. Cockerell, and tell us what Mr. Cockerell *himself* says of the matter—he is better than a thousand Belloris.

Apart from the precedent portion of the letter (which must have looked supremely absurd in the uninitiated eyes of Mr. Bull, the shopkeeper) Mr. Cockerell gives us very full and excellent reasons against the contemplated atrocity. Other critics also have done it justice. It has been well canvassed; and I have nothing new to urge. But the reference to Antiquity I would not permit to pass in silence. For the uninitiated may think that we have no other argument to bring forward than this,—which they laugh at heartily, and which we would laugh at too

"If damned custom had not braz'd us so
That we are proof and bulwark against sense."

The true criticism proceeds thus. The statue is—as we have it; and its *effect* is dependent on certain natural principles. The Arch is—as we have it; and its *effect* is dependent on certain natural principles. These are the facts of the Arch and the facts of the statue. The question is, Do the facts of the Arch and the facts of the statue agree together? The development of this is the whole criticism of the case. And the Arch and the statue do *not* agree. And the offence is even a double offence. One is not sacrificed to one, the statue to the completeness of the Arch, or the Arch to the dignification of the statue; but each is sacrificed to each,—the facts of the Arch mar the statue, the facts of the statue mar the Arch. However beautiful and valuable separate, together they are worthless and worse,—two organ-grinders grinding good and well ground tunes, but wretchedly in discord, each a hideous accompaniment to the excellent other!

In future war on the matter, then, for the sake of common sense, let there be no more absurd reference to *ancients*. If "the learned Thebans of the sub-committee" force us to fight, let us fight with the weapons of rationality and Truth, and throw the edgeless things of silly superstition behind us for ever and for aye,—they are encumbrances more than arms. Leave the clattering of brazen pans and the lifting up of death's heads to the simple Chinaman,—*we* must use the broadside and the boarding-pike. Leave the *dicta* of ancient Romans to such as may believe in Jupiter's amours, and the auguries of sacred entrails, and let Mr. Bull, who is a common-sense plain man, with a tolerable idea of plain logic, look at the matter in the light of common sense, and decide it by the rules of common argument.

And I will say this, that so long as Architects doggedly and stupidly persist in their absurd system of criticism by *precedent*, they have themselves to blame if the public pay little deference to their opinion, and sub-committees treat them as mere crotchetty fiddledeedeedum people to be *set aside* as best may be. Mr. Bull knows very well that precedent is nonsense. The Architect's province in this matter, is to employ his knowledge of the subject, to point out to Mr. Bull the facts of the case, that Mr. Bull may see them for himself and be satisfied for himself; not to produce Belloris, and medals, and Vitruvii, to show what *the ancients* did! What does Mr. Bull care for the ancients? What he wants is the common sense reason and truth of the matter.

ROBERT KERR. (R.)

PALACE AT CUDDESDEN, OXFORD.—Some extensive alterations and additions have been made at the Bishop's palace, at Cuddesden, under the direction of Mr. Ferrey, including a new chapel of the decorated period. The roof and fittings are of oak, and the windows filled with stained glass. The east window, by Willement, was presented by Prince Albert, the rest, by Warrington, Wailes, and O'Connor, were presented by the Archbishop of York and others. The same architect is building a new governor's house to the Oxford gaol; it is designed to form an angular tower, in keeping with the rest of the structure.

PROGRESS OF THE BATHS AND WASH-HOUSES IN WHITECHAPEL.

SIR,—Your observations in THE BUILDER of the 3rd instant, as to the delay in the completion of the building at Goulstone-square, are made in so fair a spirit, that I have no doubt of your publishing the following remarks on them:—

Of the two years which have passed since the public meeting at the Mansion House (October 16, 1846), nearly one year elapsed before a site could be obtained; and of course, before the working plans could be prepared. The railway mania then occasioned additional, and, so far as the committee are concerned, unavoidable delays, amounting to some months in the whole. During the progress of the works, the causes of delay to which you refer and others equally beyond the control of the committee, have operated to retard their completion; but I confidently submit, that even if a twelvemonth should be spent on them (which will not be the case), that would not be at all an unreasonable time; and I have no hesitation in expressing my conviction, that when they are completed, you will be perfectly satisfied that the committee have acted with great prudence in the course which they have pursued. It is of vastly greater importance, that they should spend a twelvemonth in producing what will really serve for a model, than that they should have an imperfect building opened some months sooner.

Your observations appear to proceed on the assumption that the building of baths and wash-houses is the main duty of the committee. That is by no means the case. They are "The Committee *for Promoting the Establishment* of Baths and Wash-houses for the Labouring Classes," and they have succeeded in promoting that object, to a degree far beyond the most sanguine expectations which most of the originators entertained at the outset. At first four model establishments were proposed to be erected by the committee. It was soon found that it would be impossible to raise subscriptions sufficient for this purpose; and it was thought that if the committee could show one model establishment, realizing such a profit as might tempt capitalists to erect others, they would have performed the building part of their duties. No pains to secure the most economical application of fuel (for which very careful experiments have been made), and the best arrangement of the apparatus, have been spared, and if the wash-house succeeds as well as that at Liverpool, and the baths as well as those at St. Pancras, the yearly net profits, after paying all expenses, will not be less than 18*l.* per cent. on the capital sunk. Let this result be proved, and we shall soon have no more lack of baths and wash-houses than we now have of breweries. That it shall be proved, the committee have spared themselves no labour, and will run no risk by making "more haste than good speed."

You refer to the St. Pancras baths and wash-houses, and also (though not by name) to those at Glasshouse-yard. Both are owing to the parent committee. On their recommendation, the St. Pancras committee was formed, as you may see by their own early circulars, and the Glasshouse-yard project originated in the parent committee.

By Sir Henry Dukinfield's Act, public baths and wash-houses are now to be numbered among our national institutions. That excellent clergyman is a member of the parent committee, and in his promoting of the measure he was cordially assisted to the utmost of their power by that committee. While it was pending in Parliament, they sent a copy of their petition in its favour, containing a general statement of the case, to every mayor, alderman, town councillor, and town clerk in England and Wales, to the editor of almost every newspaper in England, and to many thousands of others; and within one week after the royal assent was given to the Act, they published it (with notes explaining how it should be put in force), at such a low price as should put it within the reach of every rate-payer.

It is quite true that the labours of the parent committee during the last twelvemonth, have not brought them prominently before the public, and that their having rarely advertised may have led to the suspicion that they were doing but little. They have, however, been steadily and systematically at work, in performing their main duty of promoting the establishment of baths and wash-houses for the labouring classes. They have distributed throughout the whole kingdom, from Plymouth to Aberdeen, and from Portsmouth to Belfast, not less, I believe, than 70,000 circulars, of various sorts, calculated to explain their objects, and to gain converts to their cause; and to their efforts, with the invaluable assistance of the press, it is owing that the project of establishing cheap baths and wash-houses for the labouring classes—which in September, 1844, was, to the whole of the nation, except that inconsiderable fraction of it which knew what had been done in a small street in Liverpool, utterly unknown—had, in July, 1846, become so thoroughly well known and popular a topic, that it was alluded to on almost every hustings without exception, at the election consequent on the ministerial changes.

I will not occupy more of your space in defending the Parent Committee from the charge of negligence in the performance of their duties; but I will beg to add a few lines, in the hope of throwing out a hint of which you may make use.

A very careful estimate shews that the washing expenses of the metropolis, in the course of the year, amount to more than the property and income tax of the whole kingdom—considerably above 5,000,000*l.* a year. Why should not we have wash-houses for the middle classes as well as for the labouring classes? In time, trouble, and money, much might be saved to them by wash-houses constructed on the plan of those at Goulstone-square. I do not propose a washing company. That has been tried and failed. But might we not have washing accommodations supplied by companies? Do not let this hint be thrown away. Two years ago, half a crown was the ordinary charge for a warm bath; now you may have one for twopence, of which nearly one halfpenny is profit. The parent committee hope to shew that the actual cost of a warm bath need not exceed one penny. We are as yet in the infancy of the subject, and that 5,000,000*l.* a year is an untouched field. Let it be prudently broken up, and I am much mistaken if it will not be found to produce an abundant harvest to careful speculators. If the cost of bathing be reduced 1,500 per cent. why should not the cost of washing be reduced 20 per cent.? That would be a saving to London of more than 1,000,000*l.* a year; and if such a saving would not enable those who effected it to realize as good a profit as they now could by the best known commercial speculation, it must be from their taking less pains to fill their own pockets, than the parent committee have done to insure the success of their model establishment.—I am, Sir, &c.,

A MEMBER OF THE PARENT COMMITTEE.

October 8, 1846.

LECTURES ON ART.—At the Western Literary Institution on Thursday last, Mr. R. W. Buss, the artist, delivered a lecture on fresco, and the British school of historical Painting; and will complete the subject next Thursday. At the Islington Literary Institution, Mr. Samuel Nixon will give two lectures on modelling and sculpture, December 10th and 17th. At the same place on January 1st, Mr. John Hawksworth will read a paper on art, considered in its ancient, mediæval, and modern manifestations, with a view to the development of its prospective tendencies. On Tuesday, Nov. 3rd, at the Literary Institution, Newbury, Berks, Mr. George Godwin will lecture on the architecture of the middle ages. Professor Hosking commenced his course at King's College, on Tuesday last; and Professor Donaldson's will begin at the London University on Tuesday next.

ARCHÆOLOGY OF PALESTINE.—A prospectus of a new translation of "Josephus," to be illustrated by drawings of architectural remains, specimens of Jewish architecture, &c. by Mr. W. Tipping, has been issued by Messrs. Houlston and Stoneman, publishers. One of the specimen plates shews a colossal stone in the quarry at Baalbec 70 feet long, 14 broad, and 14 feet 5 in. deep!

NEW BRIDGE AT WESTMINSTER.—There is a rumour that it is intended to run the new bridge from the Duke of Northumberland's mansion at Charing-cross, to the bend in the Westminster-road forming the premises of Messrs. Atkinson.

ST. MARY'S CHURCH, BRIDGEWATER.

The corporation have determined to commence the repair of this church, to the condition of which we drew attention some time since, by removing the rough-cast with which the walls have been covered. When this was first put on, much of the ornamental stone-work (as in too many other instances) was cut away to form a flat surface, and save trouble; niches were filled up with brickwork, and other abominations committed. We trust the committee appointed to consider the subject will go into the matter thoroughly, and effect the complete restoration of the building. Our hint to the *Bridgewater Times* on the matter* was not lost sight of, but was ably urged in a leading article the following week.

Relative to our remark on the necessity of taking the advice of competent professional men in such cases, the *Bridgewater Times* says, of that which is wrongly called "the economical system,"—"it gives rise to the veriest empiricism in architecture; being as dangerous to the buildings placed under such a system, and to the pockets of the public, as it is to the deluded individuals who place themselves under the care of the ignorant pretender of the healing art, and sacrifice their health and their money to the mistaken notion that they are doing the best for the one, and "in avoiding professional assistance," saving the other. Every day's experience proves this to be the case, and also that empirics are to be found as universally in every science or profession, under some form or other, as in the popular line of quackery in medicine; we would point to this extract from The Builder, as offering a salutary warning to public bodies, who, collectively, are so liable to fall victims to jobbing, which, as individuals, a lively regard for their own interests does in most cases prevent."

PROVINCIAL NOTES.

The coast defences have been of late engaging the attention of government, and orders have been given for the preparation of thirty-three towers between Hastings and Seaford. The tops of these towers were cemented over in dome-form up to the top of the spindle on which the swivel gun was fixed. The whole of that covering is to be forthwith taken off, and a new traversing course of stone to be laid down.——On the recommendation of the Southampton Water Committee, a sum not exceeding 150*l.* is to be advanced for the purpose of trying the Chinese system of boring at the artesian well, that system having been found to be so effectual, as well as economical, when tried in the south of France. The cost of the necessary machinery will not exceed 20*l.*, and the cost of working, 2*s.* 6*d.* a foot. Mr. Lankester's offer of gratuitous superintendence, too, has been accepted.——A part of the Weymouth esplanade has been so much injured by the lash of the sea, during a late gale, that the whole must be taken down and rebuilt, at a probable expense of nearly 1,000*l.*——The stone pier between the Bill of Portland and Cave's hole, used for the shipment of Portland blocks, was also washed away, with a great quantity of large stones, working gear, &c.—— Steeple Ashton Church was consecrated on the 1st instant, by the bishop and a corps of 40 of his clergy.——The Waterworks at Chepstow are in course of improvement, at considerable expense, in order to provide a regular supply of water to the town.—— Queen Adelaide has contributed 20*l.* towards the erection of the national school and schoolmaster's house at Stratton, Cornwall, and Carteret has presented 100*l.* towards the same commendable purpose. ——The new church of St. Mary Magdalene, Barnstaple, is to be consecrated on the 21st instant.——The Hereford Improvement Act, which, it is said, cost about 1,500*l.*, must have nevertheless been a very careless concoction, if we may judge from one stupid blunder, which provides against the *making* of gentlemen's carriages *in the public streets*. The marginal title-note, or explication of the clause, while it left the graver error uncorrected, incidentally betrayed the intended meaning to have been directed against the much more likely nuisance of *washing* such vehicles in the public streets, a nuisance which there has happened lately to be occasion to put down, but which, of course, this much more costly than correct production gives no power at all to do.—— Messrs. Travis and Mangnall have prepared plans, and are now getting in the foundations for a warehouse for Robert Gardner in Cooper-street and Bond-street, Manchester, opposite the Athenæum.——The church in Springfield-lane, Salford, Manchester, is now nearly finished, in the early English style; Mr. Lane is the architect. Mr. Lane is also erecting a church at Finwalds Mount, near Castleton, Isle of Man.——A church is proposed to be built at Moss Side, near Manchester.——A new "Institution of Mechanical Engineers" was formed at Birmingham on Wednesday last, to enable mechanics and engineers engaged in the different manufactories, railways, and other establishments in the kingdom, to meet and correspond, and by a mutual interchange of ideas respecting improvements in the various branches of mechanical science, to increase their knowledge, and give an impulse to inventions likely to be useful to the world. The present Institution of Civil Engineers it was thought, from the multiplicity of other pursuits legitimately belonging to it, left ample field for the operations of such an assistant Institution for Practical Engineering without prejudice to either.——The estimate for the church at Balby cum Hexthorpe, proposed to be erected and endowed by the liberal aid of Miss Banks, is 1,000*l.*; value of endowment 5,000*l.*; probable expense of parsonage-house and schools 1,000*l.* more. The council, who possess 793 acres of land, yielding an annual rent of 1,577*l.*, are expected to meet the proposed boon in a liberal manner.——The proposed joint parochial cemetery at Cambridge, will be for behoof of thirteen parishes; nine acres of land have been selected for purchase, and a good understanding come to as to the allotment to the several parishes. The sanction of the bishop has been obtained, and the consent of the Church Building Commissioners in course of next month is confidently anticipated.——The Cambridge Gas Company have reduced the price of gas to 8*s.* per 1,000 feet from Michaelmas last.

* See p. 421, "Why Employ an Architect?"

OLD QUARRIES FOR NEW ANTIQUARIES.

"Glimpses of glory ne'er forgot
That tell like gleams on a sunset sea,
What once hath been—what now is not,
But, oh! what again shall brightly be."
Moore's Epicurean.

Sir,—It has been often said, that "there is nothing new but what has been forgotten." Yet the present generation is one which not only has forgotten what of old has been, but, full of conceit in its own occasional revivals of ancient discoveries, is ever boasting of them as original, while it turns away with ridicule and contempt from ancient quarries, in which the petrified vestigia of still more ancient lore turn up in abundance, and in fragmentary integrity and perfection; though, undoubtedly, amongst the most heterogeneous and useless rubbish, which alone, however, have our modern Cognoscenti been as yet, in general, able to discover in such treasure heaps.

In truth, like Æsop's cock, they turn tail upon the dung-heap; and, while scraping and scattering it to the winds with claw and spur, they recognise neither the value nor even the very existence of the gems which it contains. Yet here, I venture to say, we have, in many an old quaint author, quarries—of rubbish and of something else, which will be, ere long, ransacked by a new order of antiquaries, or archæologists; and much that is not only new, but astonishing in the scientific history of our globe, in more or less remotely ancient times, at length be fully elicited. And not only in the written records of antiquity, amongst all civilized nations, shall we dig in and work out such quarries of interest and curiosity, but we shall find materials of inestimable value even to us, already stereotyped in the traditionary though unwritten usages of many nations, both civilized and savage; and especially in the knick-knack knowledge of those stagnant and eternal remnants of ancient life and lore, the ultra-civilized and antique occupants of the "flowery land;" and even in many of those other "tribes and tongues," more usually deemed to be uncivilized, unripened, germs of never yet full-blown humanity, than melancholy relics of a long departed glory, as these antiquarian researches will most likely prove them to be.

I have been led into the present somewhat discursive train of remarks by the perusal of more than one incidental communication in recent Builders; but more particularly by the intimation, that an intelligent operative had wandered forth amongst foreign tribes, and gathered up a few of those stray fragments—a few of those probably traditional stereotypes or petrifactions—of what may eventually be proved to be the remnants of what was once one grand and universal system of most ancient enlightenment, practised, perhaps, by those very workers in stone, and iron, and brass, and wood, of whom we read in that unquestionably most ancient book of all books, the Bible.

The circumstance reminds me of another source of valuable hints, derived from some obscure and mysterious origin in traditionary usage, pointed out in one instance by a talented friend of my own, Mr. Robert Chambers, in his well known journal, about the time that the daguerreotype first began to excite an interest amongst the men of science and art in this country. This was the fact, that in the far northern county of Aberdeen, when he himself was a youth, he remembered that the boys at school had *a knack* of doing something precisely similar, derived, traditionally, from other boys, just as the juvenile games have been handed down amongst this numerous, knowing, and ancient tribe of little Pictish men, from time immemorial, with little of the more worldly-wise and time-learned intervention of their adult "governors."

My desire in this, as in a previous communication, incidentally called forth on the subject of the distillation of ammonia from pure rain water, known of old, though regarded as a modern discovery, is, I confess, to turn the pointed attention of your readers to the occasional gems of ancient art and science that lie profusely scattered, though obscured and hid amongst much rubbish of a less ancient, but not, for all that, of a modern description; and to induce them, by curiosity and interest, to bestir themselves actively in the more general working of this no less valuable than curious quarry of aboriginal lore, whether as it exists in ancient books, in antiquated nations, in savage tribes, or even in boyish sports of the hopeful progeny "of savage or of sage."

Only let this novel order of antiquaries, while they may treat *the rubbish* with as mighty and supreme contempt as they may choose, take just such care as our geologists now do to discriminate and separate the gems of petrifaction, which are covered and hidden under the rubbish, not confounding the one with the other, like the ignorant and conceited dung-hill bird of Æsop.

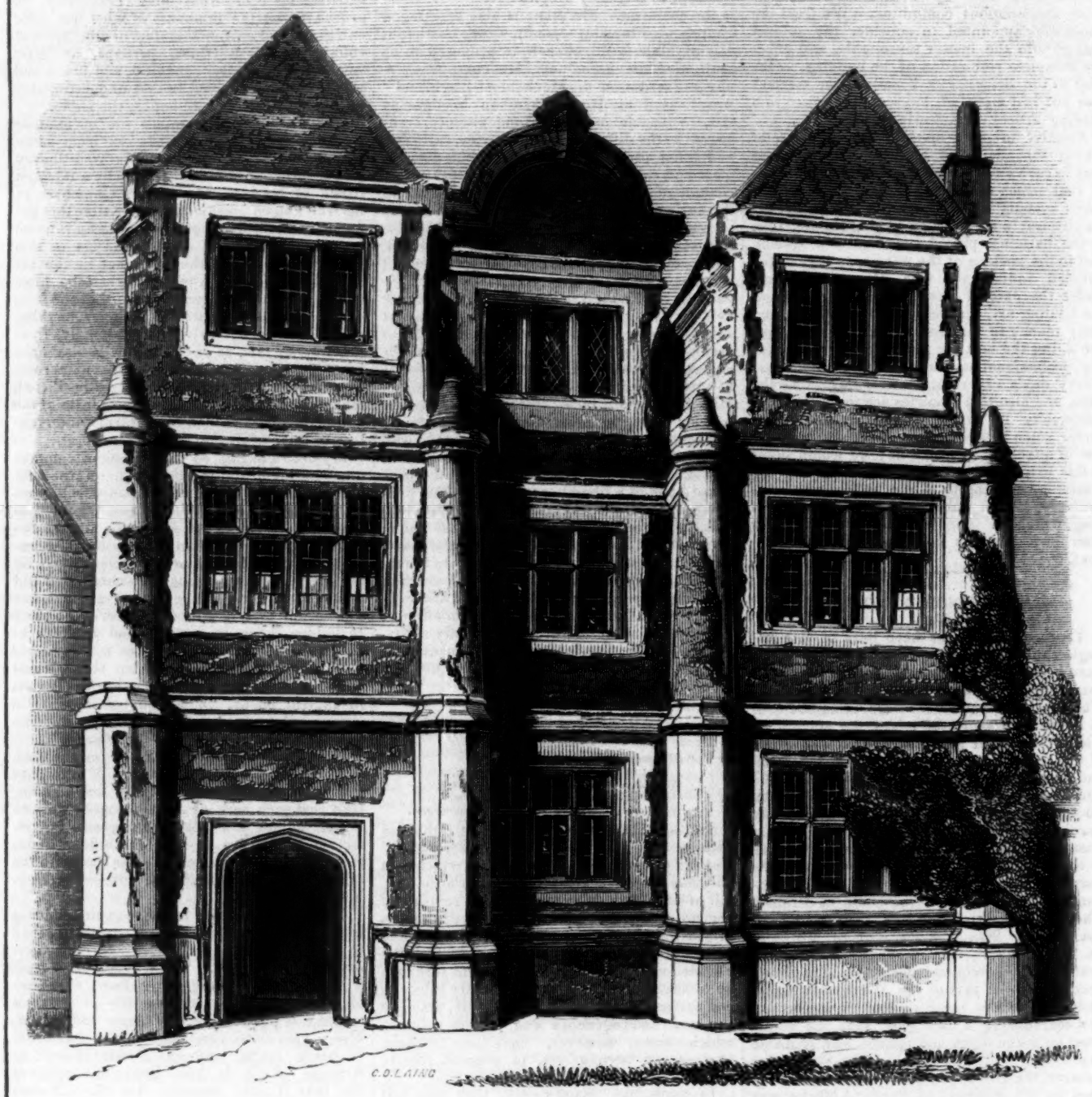
I cannot conclude without again alluding to the Chinese Quarry now being opened to the discriminating eyes of our new order of antiquaries. The Chinese are a most wonderful people, and I do believe, that after all, we know comparatively little of all their traditional possessions of science and of art. Every year some new discovery of this order is being made, and the observations on Artesian Wells in the Builder, reminds me, that it now appears, that the Chinese mode of boring these very wells is as much superior to the old established European mode, as the splendid Chinese pigeon, and other animals from the flowery land in the British Museum, are superior to those we have.

China, then, is a quarry which ought to be most diligently and perseveringly dug, for its valuable petrifactions of aboriginal or primitive science and art,—*not its own, but only embodied in its stagnant mud*, and treasured there, and handed down to a more enlightened generation, who shall understand their *full* significance, and be able to read therefrom the scientific pages of the past; gathering from such isolated yet connected hieroglyphics, a meaning no more limited to the mere sense of each little hieroglyph so recorded and observed, than is the sense of a whole sentence embodied in each of the alphabetic characters in the current of which it is borne along.

J. E. D.

Save-all.—Mr. Budd, of Swansea, has taken out a patent for the application, in the manufacture of iron, of clinkers produced in the combustion of coal, and heretofore regarded as useless.

THE QUARRIES, NEAR ROCHESTER.



STATE OF THE GAS MAINS.

LOSS AND DANGER THROUGH BAD WORKMANSHIP.

We are desired to direct the attention of the gas companies, to the very defective state of the gas mains running along High-street, St. Giles's, and also along Tottenham-court-road. The escape and waste of gas must be alarming. Some time ago the electric fluid ignited the gas in the gully drain by Meux's brewhouse, and blew up the paving for several yards around it. Upon opening the sewer in High-street, by Denmark-street, on Monday last, the issue of gas from it was so great as to prevent any one from approaching within some yards of it for nearly two hours. It was very fortunate the workmen had no light with them at the time of opening the sewer, otherwise a fearful accident would have been the result. The escape of gas by the gully holes at times, is very annoying to passengers and the inhabitants.

THE QUARRIES, NEAR ROCHESTER, KENT.

There is some probability in supposing that the curious building represented in the print, known as "The Quarries," near Rochester, was erected by Thomas Lord Cromwell, in the reign of Henry VIII., as it is on ground which, with the adjoining manor of Æslingham, in the parish of Frindsbury, was granted to him by his capricious master. The building stands on the summit of a hill, which stretches out a considerable distance into the Medway, between the towns of Chatham and Rochester. The house commands therefore a fine and extensive view, but the situation is so bleak and cold during the winter months, that it is at that period of the year hardly habitable. The house is very small, and could only have been intended as a place of occasional retirement for a person of distinction. Besides the carefully designed front, it bears considerable marks of state and quality about it: there is a large court-yard in front, the entrance to which immediately opposite the door of the building, is a handsome archway, enriched with pilasters, entablature, &c.

The interior of the building possesses very few of its original fittings—one large fire-place, with the ancient woodwork, alone remains. The exterior has undergone considerable change; and the side front, which is a prominent object to a spectator on Rochester Bridge, has been entirely rebuilt.

The ancient portion of the building is carefully constructed in red brick; the whole of the string courses, the parapets, the sides of the windows, and the curious circular buttresses are covered with compo. The latter, from the exposed situation of the building and the utter state of neglect to which it has been doomed, has nearly disappeared. It will be seen, that the two small gables over the windows have been rebuilt in a plain style; there can be little doubt that they had originally the

QUARRIES—DETAILS.

same moulded parapet which the centre gable has.

The whole character of the building, the details of the window frames, and other appearances, would denote the period of its erection to be in the reign of Henry VIII. There is no shield of arms or initials of any kind upon it, neither is there any reference or allusion to it in any published history of the county. Whether it is, or is not, the erection of the Lord Cromwell must remain uncertain. After the degradation and death of that nobleman the property was devised by the crown to other parties. C. J. R.

*** As part of our series illustrative of the progress of domestic architecture, to which general reference will be made hereafter, this and preceding engravings will be seen to have a purpose beyond that of recording the structures themselves.

CONSTRUCTION OF PAVEMENTS.

Sir,—One of the recent numbers of your highly esteemed journal, contains some very reflective comments upon the architects of the present day, in reference to the construction of pavements; and in such direct accordance with my own opinion upon the subject, that I venture to submit, for the perusal of your readers, a few remarks claiming its importance, and to address you in behalf of an almost hidden discovery, that may tend to remedy the errors to which you refer. It must be obvious to all, that the first and most essential element of a good pavement is its facility to preserve the uniform surface in which it is laid, whether inclined or horizontal, to secure which no artificer up to the present day has succeeded, in connection with public advantage.

Even the Romans, who constructed pavements many centuries ago, of all the diversity of form and assemblage of colour that human art could devise, either representing their trigonometric prowess, or illustrating the poetic fancies of their renowned writers, and although these same pavements lie hidden in numbers beneath the cultivated surface of many parts of our island (but little injured by the lapse of time and its attendant effects), yet none were constructed upon a principle from which it would be consistent either with our means or advancement in mechanical science, to derive a precedent. To what, then, can we attribute the perfect state of preservation in which these pavements are found? Not from a knowledge of the superior means known now (though not generally), but doubtless it was the result of great labour, which would at the present day incur an expense at once dissipating the means of ever equalling an age that we ought to surpass. It will generally be found, that these pavements were laid on a surface of well-composed concrete, having for its bed layers of well rammed clay, in such a high state of compression, that it is evident very much labour and attention must have been bestowed upon this their most important foundation. In some cases it resembles the shale found immediately under and above the beds of blue lias limestone; and when we reflect upon the enormous expense that such labour would involve at the rate of our workmens' wages, we should be clearly convinced of the futility of an attempt to follow the system of the Romans in constructing tesselated pavements.

Many of these highly interesting specimens have occasionally been discovered in England, of which those at Woodchester and Cirencester (named in the paragraph), are well worthy of attention, but that from which I derived much knowledge of their construction was found at Newton St. Loe, in the neighbourhood of Bath, in the course of excavation for the formation of the Great Western Railway; and as the circumstances of its discovery proved also the necessity of its removal, a better opportunity of examining the subs-urfaces could not be wished for. Being then engaged in that district of the line, I had frequent opportunities of witnessing the disclosure; and was, subsequent to the entire opening, employed in making full-size drawings of each pavement, and in superintending their removal to the company's offices. Hence I derived an intimate knowledge of the substructure; and my impressions were confirmed by the fact, that where the pavement (evidently of inferior apartments) was not in the highest state of preservation, its construction differed only from the others in the absence of the first layers of clay, avoided no doubt from (even then) the attendant expense.

It is evident from the frequent attempts that have lately been made to introduce tesselated pavements, that a consciousness exists of the claims that one of the most important surfaces in a building holds on the decorative artist.

We all agree that it is not sufficient to build plain walls, and construct flat ceilings, without breaking the monotony of their surface with the well-known parts that make up an architectural composition; why then should we forget that the floors offer a wide field for the display of genius or taste, producing those highly pleasing and moral effects upon the mind, that necessarily attend the judicious co-operation of the fine arts with artifice.

We have unnumbered instances of the importance attached to this subject by people who must have devoted much time, and the great study in designing and arranging the various devices, forms and illustrations, that are found in the specimens before alluded to, when the decorative arts were deemed as essential as the mechanical ones, to respond to the wants of mankind, at once illustrative of the genius and artistic feeling co-existent with that great age, that we, in our darkness, but imaginative greatness, vainly endeavour to imitate. It was with the most praiseworthy feeling that the most important public building of our metropolis was deemed worthy of all the architectural aid which our advancement in the science could afford, and, consequently, the floors of the Royal Exchange were doomed to be carpetted with an Anglo-Roman tessellated pavement. Much praise did this excite from the worthy inhabitants and visitors of this our renowned city; but, alas! that praise was transient as the smiles of an April sun, and the shower of ridicule burst on the failure that ensued; and as your paragraph states (which, or its import, was quoted in the following day's *Times*, and many other papers), the asphalte which succeeded the tesselated pavement "was cleared away to let in the old stone again."

Yet the reintroduction of a pavement formed of tesseræ, subservient to the will of the artist, is highly praiseworthy, and it only remains for others to supply the means of a cheap and substantial construction.

About three years ago a patent was granted for the discovery of a form of block suitable to the formation of pavements, roadways, &c., of which I herewith send explanatory diagrams. It will be seen that the form exhibited (fig. 1) is of a peculiar though extremely simple character, and consists of an amalgam of two three-sided wedges, one acting upwards, and the other downwards, so that a combination of these, as shewn in fig. 2, resting with a nine-inch bed on walls at each extremity, would form a solid floor equal to the effect of all proportionate weight or pressure whatever. It will be perceived, that in a floor so constructed, if a weight be imposed upon any one of the blocks, it would be distributed or communicated by the three sides acting as the downward wedge, to the sides of three of the surrounding blocks (one to each), and so communicated to the abutment or extreme bearing points; thus a mutual support being established, for three sides of the hexagonal block give, whilst the other three receive, support. In such case it would differ from a solid mass in one particular only, which proves one of its great advantages. In all large slabs of stone or other material, where there is a bad vein or other defect in any part, there is always either a continuation of that defect, or a tendency, in

BLOCKS FOR PAVING.

Fig. 1

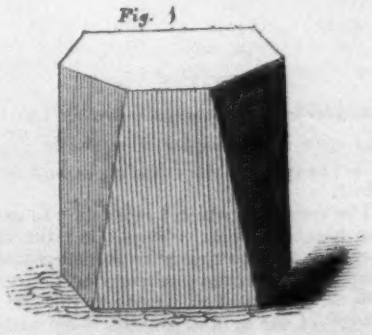
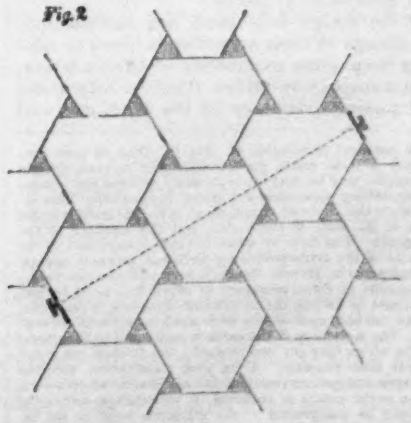


Fig. 2



case of fracture, to continue from one end to the other; whereas in small blocks, should any such imperfection exist, it cannot extend beyond the limits of its own size: and it will be further seen, that if every other block in every other row was totally destroyed, it would not in any way deteriorate the general support.

Now, supposing these blocks were manufactured by a saw machine, they could be cut with such beautiful accuracy, that no cement would be required to adjust each joint upon an uniform bearing to the other; but as this would incur great expense, it would be doubtless better to set them in Roman cement; and then a well-made brick of the required shape (allowing for shrinking, warping, &c.) would be sufficiently correct, and the cement would in a very great degree counteract the lateral thrust consequent upon the superincumbent weight, which would be further aided, if necessary, by a wrought-iron tie, three-quarters of an inch in diameter, passing through the entire floor, as shewn in the diagram No. 2, at intervals of every 6 or 8 feet. I do not presume to say that a pavement so formed could accommodate itself to the numerous devices of a tesselated pavement, but it would prove an everlasting foundation to one—as lasting, of course, as the walls on which it would rest. Adapted to an area of any extent, either on roadway or in houses, floors may, by the aid of this simple invention, claim a superiority in durability to any that has ever yet been constructed, whilst its predominant advantage may be set forth in an assertion that they would be fire-proof. Not only could each floor of a building avail itself of this mode, but the roof also could, by a slight convexity of the upper surface, and totally supersede the necessity of all that cumbrous and expensive covering that has been in vain modified to the aid of architectural beauty.

To all the advantage of an arch it would add the property of being flat, consequently a gain in height, and a capability of resisting the same pressure upwards as downwards, that is to say in exactly opposite directions. From the last-named quality it will be obvious that a wall or partition so formed would well supply the place of the present dangerous wooden partitions, and being supported on an iron girder would, with the previous suggestions, go very far to make our modern buildings fire-proof, a desideratum too universally admitted to require any comment. I acknowledge this last remark is somewhat irrelevant to the subject upon which I first took the liberty of addressing you, but as the means of effecting each are so intimately connected with one another, I feel assured you will excuse the slight digression, if you but favour me with space in your columns for that which may be deemed interesting to the profession. I also beg leave to send you a model of the blocks, which will more clearly elucidate my remarks.

I am, Sir, &c., R. C. Saunders.

EXPERIMENTAL MODELS.

"Parvis componere magna."

The strength and weight of the building materials at our command being known, the proportions of the parts of a proposed structure, necessary to ensure its stability under the greatest probable stress to which at any time it may be liable, as with regard to a bridge, from a load upon it, may be calculated, sometimes with mathematical nicety.*

If the design be unusual and complicated, and change of form or motion is likely to take place from causes extraneous of the structure, as in a suspension-bridge from the action of a load passing over it, or of the wind, it is well to use a model, as by its means the changes and vibrations of the proposed structure may be more satisfactorily inferred than from the most laborious calculations.

The model may be made of materials the same as—or different from, if more convenient—those intended to be used on the larger scale; but in either case regard must be had to the relative strengths and weights of the materials when put together in the proposed manner, if we wish to make a just comparison of the little with the great structure.

In masses of similar forms and materials, but of dissimilar dimensions, the strengths are as the squares, but the weights (and of course the strains depending upon the weights) are as the cubes of the respective dimensions. For instance, with respect to two rectangular beams laid horizontally, the first 1 foot deep, 1 foot wide, and 20 feet long between the supports, the other 2 feet deep, 2 feet broad, and 40 feet long, the dimensions are as 1 to 2; the strengths as the number of parts in the cross sections which oppose extension, that is, as the areas which are as the squares of 1 and 2 or 1 to 4; the cubical contents, and, therefore, the weights are to each other as the cubes of 1 and 2 or 1 to 8. It thus appears, that while the resisting power and weight (or straining force) of the smaller beam, are to each other as 1 to 1, the resisting force and weight of the greater beam are to each other as 4 to 8, or as 1 to 2. If we suppose that the latter is just so strong as not to bend with its own weight alone acting upon it, the former would bear a load equal to its own weight, uniformly distributed over it, without bending; for then the resisting power and straining force of each would have the same proportion, viz., 1 to 2. In experimenting with a model, care must be taken that this condition is fulfilled.

If we proposed to construct a suspension bridge, or say for the novelty, a tubular bridge, of 450 feet span, with 500 tons of iron, and an experimental model of 45 feet span, the dimensions being as 1 to 10, the cross sections of the great tube would be 100 times greater than those of the model; its weight would be 1,000 times greater, which numbers also are as 1 to 10. To put the model, therefore, upon equal terms with the projected bridge, it would have to be loaded with 9 times its own weight, or with $\frac{500}{1000} \times 9 = 4\frac{1}{2}$ tons; and the same allowance would have to be made for all external disturbing causes, as the weight of carriages, &c.

If we were to form our model of tin, as more manageable on a small scale, we must proceed in the same way to reduce the strengths and strains to the same ratio. The relative strengths of tin and iron to resist extension, are nearly as 1 to 4, and their specific gravities nearly equal. Making the respective dimensions as 1 to x, the strengths are as 1^2 to $4x^2$, and the strains as 1^3 to x^3.

$$1^2 : 1^3 :: 4x^2 : x^3.$$
$$x^3 = 4x^2.$$
$$x = 4.$$

Whence it appears that if the dimensions were as 1 to 4, a bridge of tin of $\frac{450}{4}$, or 112·5 feet span, would be nearly upon the same terms with regard to strength and strain as an iron one of 450 feet span. If we were to make our model of $\frac{112{\cdot}5}{3}$, or 37·5 feet span, we should have to add in our trials only twice its own weight, &c.

If we were to construct the model of lead, the strengths of lead and iron to resist extension being nearly as 1 to 10, and their specific gravities as 11 to 7.

$$1^2 : 11 \times 1^3 :: 10x^3 : 7x^3.$$
$$7x^3 = 11 \times 10x^2.$$
$$x = \frac{110}{7} = 15{\cdot}7.$$

The dimensions in this case are as 1 to 15·7. The span of the model being made $\frac{450}{15{\cdot}7}$, or 29 feet nearly, no extra loading would be required.

The resistance which bodies offer to extension has been alone referred to; the same reasoning, however, applies to the resistance which they offer to compression. A bridge built of chalk might be made to indicate the strength of one built of granite, if the qualities of the two materials were taken into account.

W.

* A practical illustration of this is, that an arch constructed of loose cards, packed vertically between upright abutments, may be *just* made to stand without any change of form taking place when the centre is removed. This occurs when the curve of equilibrium cuts the middle of the depth of the arch at the vertex, and the extrados at the abutments. The force by which the arch is sustained is the elasticity of the cards producing sufficient pressure against the abutments to prevent the arch from sliding down them. The amount of force necessary to effect this must be first ascertained by finding the co-efficient of friction of the cards, and the rise and span of the arch must be adjusted accordingly. The resistance of the cards is just equal to the elastic force by which they are compressed; the friction generated prevents their slipping. If an arch constructed with the same span but greater rise than this will stand, nevertheless, as soon as the centre is removed, it will change form; the cards will be compressed at the extrados, loose at the intrados towards the abutments, and the reverse at the crown; thus showing partial strains, which in construction should be avoided as much as possible.

PEDIMENTAL SCULPTURE, ST. GEORGE'S HALL, LIVERPOOL.

Several letters have reached us, relative to the intended enrichment of the pediment of St. George's Hall. Mr. Cockerell, it seems, offered to present his design for this purpose (which appeared in the last exhibition at the Royal Academy), on the condition that it should be executed in proper proportion; and the council have accepted the offer, and appointed a sculptor of Mr. Cockerell's nomination. The letters urge that the design was originally made for the Liverpool Custom House, and that its commercial character unfits it for St. George's Hall; further, and this is more particularly dwelt on, they complain that the Liverpool sculptors have not been allowed to compete for the honour of executing Mr. Cockerell's design. As, however, they are anonymous, *ex parte*, and not written with good feeling, we decline publishing them. The cost of the sculpture in question is stated at more than 3,000*l.*

A writer in the *Liverpool Mail*, wherein much correspondence on the subject has appeared, says, when advocating the claims of the local artists,—"It may not be out of place to add, that the gold medal first given by the Royal Academy of London, was awarded to a Liverpool sculptor (Deare). It is well known that *Mr. Gibson* received his education and produced some of his best works in Liverpool*; and, within the last few weeks, a Liverpool sculptor carried away a prize medal and a sum of money, publicly advertised at the Manchester Royal Institution Exhibition of 1846.

RAILWAY JOTTINGS.

We are much pleased to observe, that Mr. Thomas Gray, the interesting author of the Railway System, is now likely to receive a share of the honour and the more substantial benefits due to him, inasmuch as a subscription for a befitting testimonal has been fairly set afloat in the city where he dwells, and where he must be therefore best known, namely Exeter. It is to be hoped that this will be but the central nucleus of a wide-spread recognition of his services——A correspondent of the *Railway Times* suggests the adoption of a hydraulic safeguard against collision, which will operate on the truck or other moveable obstacle on the rails in front, on the principle of Savery's engine, or the syringe, through a small tube in front of the boiler, and passing into it, and fitted with a valve or cock to be opened at the last moment before the anticipated collision. The force applied, it is calculated, would operate retroversively on the engine and train themselves, as well as on the obstacle.——The London and South Western Company are now in possession of nearly all the property necessary for the extension of their line to Hungerford Bridge, and preparations are in progress for the immediate commencement of the works. ——"A huge pile of bricks," by some strange oversight, placed right above the tunnel cutting at the Marlands, on the Southampton and Dorchester Railway, and which had taken weeks to convey there, sunk, of course, into the cutting below, and completely blocked up the burrow. "The inclemency of the night" has much blame attached to it; and "the enormous weight," we should think, much more; but most of all, the still more enormous stupidity of loading an incipient tunnel with such a weight. It will cost some time to clear it out for further progress.—— The wind and tide have done considerable damage to the sea wall on the South Devon Railway, between Dawlish and Teignmouth, near what is called the Parson Tunnel, where there is no solid masonry, but a mere dry wall.——It is intended to concentrate several lines of railway in one extensive station at Carlisle. Mr. Tite's estimate of the cost of the erection is 37,982*l.*; and Mr. Errington, the engineer, intimated that to save time and prevent the confusion of two sets of workmen employed by different contractors, it was desirable to avoid competition in the present instance, and make use of the great resources at the command of Messrs. Brassey

* We take this opportunity of mentioning, with much commendation, an excellent engraving, by Mr. Wagstaff, of our eminent countryman, Mr. Gibson, which was published a short time ago.

and Stephenson as the contractors. In less than a year, therefore, four great railway lines, diverging nearly to the cardinal points of the compass, will be united in a central station, at Carlisle, where other important lines, such as the Dumfries and Carlisle, will be also connected with these.——The South Junction Railway, connecting the Manchester and Liverpool Railway at Water-street, with the Manchester and Birmingham, at Fairfield-street, is in course of execution by Mr. David Bellhouse. The line is only one mile and three-quarters in length, but it is carried on a continuous viaduct of brick and stone arches, and iron bridges. Many of the iron bridges are of the trussed beam construction, and there is an arched iron bridge of 105 feet span over the canal.——The first stone of the Huddersfield station was laid by Earl Fitzwilliam on the 9th inst. Messrs. Pritchett and Son are the architects; Mr. Joseph Kaye, the builder.——The *Pictorial Times* has been amusing its readers by weaving an ideal tissue out of the wiry realities of the electric telegraph, in announcing the speedy formation of a metropolitan "Public Message Delivery Company," which is to have stations in every populous neighbourhood—and wires communicating with every other, we presume, in order that the whole of the cursory and floating converse of the metropolis may be caught in the telegraphic network—whence an organized corps of message boys will issue forth with the substance of each haul, as it is caught, for disposal, "at low rates of charge," at its own proper destination. "The utility of the proposed scheme must be obvious. The Horse Guards could have a line direct to the Tower, and an order from Government be delivered and acted upon in a few moments. It is impossible, in fact, to say any limits could be placed upon the useful operation of such an establishment as the Public Message Delivery Company promises to be."

SOUTH WEALD CHURCH, ESSEX.

South Weald is situated about two miles south-west from Brentwood, in Essex. The latter hamlet is 18 miles from London, and may be reached by the Eastern Counties Railway. Soon after the train emerges from the cutting which begins near Romford, South Weald church is a conspicuous and picturesque object, nestling among the trees, which nearly surround it. The walk to it from Brentwood through the green lanes is most delightful.

It consists of western tower, nave, and chancel; south aisle nearly as wide as the nave, and standing under a distinct roof; a south chapel, being a continuation of the south aisle, and standing flush with the east end of the chancel; and a south porch composed entirely of timber.

The chancel steps alone remain to mark the separation of that part of the church from the nave. There is no vestige of a screen, and, apparently, the church never possessed a chancel arch: this supposition is confirmed by there being no external division between nave and chancel. The chapel is also separated from the south aisle by two steps.

The arrangement of this church is curious. The body is in the form of a parallelogram, divided nearly up the centre by six perpendicular arches (resting on five late Norman pillars, and two responds) extending the whole length of the church. Three of the pillars are circular, and two octagonal, but they have all the same suits of mouldings for abaci. The mouldings of the arches are poor perpendicular, consisting of shallow cavettos. Three of them separate the nave from the south aisle, and two the chancel from the chapel; the latter now belongs to the family of Towers. There are altar steps in the chancel and in the chapel.

All the windows are perpendicular, and with the exception of those in the tower, very meagre. The most easterly, on the north side of the chancel, contain some ancient stained glass; the subjects are scriptural; one is, the offering up of Isaac.

There is nothing in either of the roofs worthy of notice; they are very late, and whitewashed. A number of stones in different parts of the church bear testimony that it was formerly rich in monumental brasses; but very few remain, and not one perfect.

The most important tomb is in the chapel, and contains the remains of Sir Anthony Brown, Lord Chief Justice of the Common Pleas. He had the manor of Caldecot, in the parish of South Weald, conferred upon him by Edward VI. Henry VIII. gave him extensive lands for his assistance in robbing ecclesiastical establishments, by giving the weight of the law to the king's sacrilege. He died in the reign of Queen Elizabeth. It is an altar tomb, and originally bore the figures of Sir Antony and his wife, a Latin inscription, four coats of arms, and an English inscription round the rim, all in brass.

Of these the lower half of the figure of Sir Antony, the Latin inscription (given below), a part of the English one, and one coat of arms, are all that remain.

Anthonius Brownus, miles, unus justiciariorū dnæ Reginæ de Commū Banco, obiit 16 die mensis May, anº regni Reginæ Elizabethæ 9º et anno dnī 1567,—ætatis vero suæ 57—Et Johanā—uxor eius, quæ fuit filia unica et hæres Willi Farintō, armigeri, filii et hæredis Henrici Farinton, militis, obiit octavo die Novebris anº reginæ, et dni pdicto, et ætatis suæ 52. Which may be thus translated:—

Anthony Brown, knt., one of the justices of the Common Pleas and the Queen's Bench, who died the 16th day of the month of May, in the 9th year of the reign of Queen Elizabeth, and the year of our Lord, 1567—of his age, 57—And Jane, his wife, who was the only daughter and heiress of William Faryinton, Esq., son and heir of Henry Faryinton, Knt. She died the 8th day of November, in the year of the queen and our Lord aforesaid, and of her age 52.

There were also eight coats of arms on the sides in brass, but they have all been torn away! Close to this tomb are brasses of two children, about six inches by four each. All that is intelligible of the inscription is—

Roberto Picakis 7 yeares, died 10th day of September: Ellen Talbott 5 yeares and three quarters, she died: : : September, 1634.

The most perfect brass in the church is that of a man and two wives (there is the mark of a third), with the children of each wife placed under her. The figures are about a foot long. The date is about the middle of the sixteenth century. Two of the plates of children, one wife, and the inscription are gone.

The font is modern. The church is pewed and boarded over, with the exception of the chapel, and has a small gallery at the west end. The principal external feature is the embattled tower, with its massive turret, standing at the west end of the south aisle. It consists of three stages, the highest of which alone contains windows; they are all alike, three light perpendicular pointed, with tracery. Upon the highest string, and on the turret, are some good gurgoyles. It is roofed with lead; the ascent to the belfry and roof is by a spiral staircase in the turret. The tower is all Perpendicular, and is of richer workmanship than any other part of the church.

The south porch is all timber, and very late; but the south door of the church, inside the porch, is Norman work; the archivolt mouldings consist of three chevrons, and the pillars are cut with the same ornament from capital to base. The capitals are carved. On the right hand side of this door is the lower portion of a perpendicular Benatura.

The east window of the chancel is large, five-light, pointed perpendicular, with tracery; but the effect is not good, as it is nearly flush with the wall. The south chapel has at the east end a square-headed, five-light, transomed window, with no foliations. It is, apparently, of the same date as the interior of the porch. The church is tiled, and all but the tower is plastered.

The Norman pillars and the south door are the only remains of a much earlier church. Over one of the entrances to the churchyard is a good lich-gate.

HISTORICAL NOTICE.

South Weald is styled in ancient records Walda, Waude, and Walde. To this parish belong the hamlets of Brentwood and Brook-street. Earl Harold endowed the seculars of Waltham Abbey with seventeen manors, of which South Weald was one. Edward the Confessor granted the charter, and Henry II. confirmed it, when he changed the secular into regular canons. It was then valued at 6*l.* per annum.

The manor of Cocksted, or Caldecot, in this parish, after the dissolution, was given to Thomas Cromwell, Earl of Essex, by Henry VIII., but reverting to the crown by Cromwell's treason, King Edward VI. granted it to Sir Anthony Brown, whose heirs sold it to Sir William Scroggs, Lord Chief Justice of the King's Bench. Sir Anthony Brown founded a free grammar school at Brentwood in 1556, which is open to all boys residing in the parish of South Weald; and almshouses at South Weald for five poor persons.

Brook-street formerly possessed a hospital for lepers, dedicated to St. John the Baptist: the founder is unknown. Here was also a free-chapel, founded in the reign of Edward I., granted by Edward VI. to Sir Anthony Brown and Richard Weston.

These historical particulars are principally from "Hughson's Perambulations," vol. vi.

Sept. 1846. Amateur.

MANCHESTER PUBLIC BATHS AND WASH-HOUSES.

Some time ago a fancy ball was given in Manchester on a magnificent scale, for raising a fund to be devoted to the providing of public baths and wash-houses for the people. Subscriptions were collected, and a committee was appointed to carry out the object so fraught with benefit to the working classes, with a spirit worthy of its importance. The committee selected a large house in Miller's-street, near the Rochdale-road, which they engaged for a term of years, and which they have fitted up in the most economical manner, according to the plans of Mr. F. T. Bellhouse, architect.

The building consists of a cellar, and three stories above; and has a spacious yard behind. The cellars are devoted to the washing department, and give accommodation to twenty-six washers at one time, and contain two large boilers for boiling the clothes. There is also a drying-stove, and all these advantages are afforded, for a space of time not exceeding four hours, for the sum of one penny.

The first-floor contains a spacious waiting-room for males, in which *a few books are provided;* apartments for the superintendent and matron; and a room containing six baths for females, with separate entrance and waiting-room. The second-floor is devoted to baths for males; two rooms containing six baths each. For the use of each of the twelve baths for males, and the six for females before mentioned, the charge, including hot and cold water, and the use of a towel, is twopence.

The water for supplying the establishment is contained in two cisterns at the upper part of the premises, which are kept filled by the water from the Water-works Company's main. One of these cisterns contains water heated by steam, which is admitted into it from a steam-boiler. The other contains cold water. From these cisterns each of the washing-tubs and each of the baths are supplied with hot and cold water, which may be turned on at pleasure.

The drying stove contains a number of "horses" which run upon pullies, and are, when filled with clothes, pushed into a chamber containing a great number of steam-pipes.

We are glad to learn that the people avail themselves eagerly of the benefits of the establishment, as is shewn by the following statement:

Number of persons who have made use of the Baths and Wash-houses in Manchester, between Sept. 7th, 1846 (when they were first opened to the public) and Oct. 6th inst.

Number of Male Baths at 2d.	1,967
Number of Male Baths at 6d.	144
Number of Female Baths at 2d. ..	189
Number of Washers at 1d.	396
Number of Manglers at ½d.	247

Cellars in Liverpool.—*The Globe* says, that no less than 300 informations were laid last week against the owners of tenements in Liverpool, for cellars which were either defective as respects ventilation or were of insufficient size for human dwellings. It was proposed to dispose of this formidable array by hearing 50 summonses per *diem*.

FLOORS OF GAS-TAR AND GRAVEL.

We were asked a fortnight ago to state the best mode of paving with gas-tar and gravel. The following method and proportions, as used by an esteemed correspondent, have answered the purpose well. Two bushels of gravel, or broken stones, sifted through half-inch gauge; one-third of a bushel of slaked and sifted lime; one-third of a bushel of sharp sand or road-stuff; and two gallons of coal gas tar. The gravel or broken stone, and the tar, should be mixed gradually by spades, on a large mortar-board with ledges round it, till every stone is wetted, and then sift over it and well mix the lime and the sand. Then spread the concrete thus formed, three inches thick evenly over the space to be covered, which should be previously levelled. When the space is covered, or the day's work done, roll it (as soon as it will bear) with an iron roller, and sift sand and lime after the roller where tar squeezes out. It should not be used for a week at least; and the more frequently it is rolled the better it will be. Brick-rubbish, or burnt earth may be used instead of gravel. When properly executed, a floor of this description is impermeable by wet, and will resist rats and the hoofs of horses. It might be used advantageously for stables, and is inexpensive.

New Books.

The Journal of the Archæological Institute of Great Britain and Ireland. No. 11. London, Longman; Oxford, Parker.

The September number of this work contains several of the papers read at the meetings of the Institute in Winchester and in York,—namely, Sir Richard Westmacott's essay on the progress of sculpture in England (of which we gave an abstract at the time*); notices of the priory of Southwick, in Southampton, by the Rev. Mr. Gunner; Towyn-y-Capel, Holyhead, by the Hon. Mr. Stanley, M.P.; and others. Mr. Way contributes a paper on ancient chess-men, as illustrative of mediæval costume; but the paper which would most immediately interest our readers is "On some arrangements for the hanging of bells in churches without towers," by Mr. Parker. This is illustrated by sixteen admirable wood engravings of bell-cots and gables, and will be found useful.

We make the following extracts from the miscellaneous intelligence.

Mural Decorations in Churches.—The frequent discoveries of mural decorations in colour, recently made even in small parish churches, on the removal of the thick coats of whitewash with which their walls for many successive years had been beautified, appear to establish the fact, that all churches, from the Norman times until the reformation, were decorated with colour in a greater or less degree, both on the plane surfaces and the mouldings. Mr. Charles Dorrien has forwarded to the committee sketches of subjects brought to light during the restoration of the church of Mid-Lavant, Sussex; these paintings, apparently of the latter part of the 15th century, are arranged in compartments, and seem to have formed a series representing the sacraments and services of the church. One of them exhibited the rite of interment; the priest, vested in an alb, touches with the processional cross the corpse wrapped in the shroud, marked upon the breast with a large cross patée. On the south wall of the nave appeared a large figure of St. George, date, about t. Hen. VII. Mr. Dorrien remarked that indications were discernible of three successive decorations; the earliest being coeval with the fabric, and consisting of designs in outline in coarse red paint. Many traces of mural paintings have been found in the churches of that part of Sussex, but mostly foliated ornaments and zig-zag patterns.

A notice and representation of similar paintings, recently uncovered on the north side of the nave in Melcombe-Horsey Church, Dorset, has been communicated by the Rev. Charles Bingham. They are in very imperfect condition, the design apparently of the earliest part of the 15th century.

Manor House, Crewkerne.—The attention of the central committee has been called, by Mr. Richard Hussey, to the existence of a good example of the domestic arrangements of the 14th century, in Somersetshire. The rectorial manor-house at Crewkerne, consists of the original buildings, apparently in the style of the reign of Edward II., with an addition in the perpendicular style. It is in a very dilapidated condition, and will, probably, be soon pulled down to make way for a modern dwelling-house. The original features are in part concealed by ivy, but some of them are perfectly visible: a window in one of the gables is of two lights, and, as is not uncommon in *domestic* buildings of that age, has a transom. There is a projection on the eastern side of the house, possibly intended as a chapel. This building appeared to be a valuable specimen of domestic architecture, during a period of which few similar works exist, and it deserves to be carefully planned and drawn. The original part seems to have been but little altered; the general composition is very picturesque, and the site, adjoining to the western side of the church-yard, was well chosen. Mr. Hussey expressed the hope that some member of the institute might be disposed to examine this fabric without delay, and preserve memorials of its character and details.

Market Place, Ashburton.—The market-place of the town of Ashburton, Devon, a curious timbered fabric of considerable antiquity, consists of an open arcade, formed with pointed arches of wood, supporting a lean-to roof, on either side, and a single upper story. Its dimensions are about 150 feet in length, by 10 or 12 feet in width, the upper part of the building being considerably less wide, on account of the pentise roof on each side. This ancient structure has fallen into decay, and, according to the report of the Rev. Arthur Hussey, it will inevitably, unless some steps be taken to prevent its removal, be demolished on the expiration of an existing lease, terminating at the death of a person above eighty years of age. He suggested that, at least, some examination of its construction should be made by a competent person, and a representation, plan, or section, preserved, as a memorial of an interesting specimen of a class of buildings of which few now remain.

* See page 377, *ante*,

Correspondence.

ANTS IN DWELLING HOUSES.

Sir,—Knowing your desire to contribute to the comfort and convenience of our dwellings, I presume to address you on a subject that somewhat differs from those generally treated of in your excellent journal. Some of the houses in Pall Mall are infested by *ants*, similar in form to those we see in the country, but much smaller and of a reddish colour; they swarm in such multitudes, as to become an intolerable nuisance, generally frequenting the warmest parts of the house, and finding their way into sugar-canisters, bread-cupboards, &c., and covering all that is succulent and edible. The unwelcome intruders do not confine themselves to inanimate substances, but introduce themselves into wearing apparel, crawling about the body, thereby producing a titillation far from agreeable.

You will greatly oblige me and other sufferers from these tormenting insects, by the insertion of this letter in your next number. Some one of your correspondents may have the charity to suggest the means of extirpation. Camphor has been tried; they evidently dislike it, for they avoid its proximity. Fumigation has been recommended, but I imagine it would be inefficacious in a large house. Beetles that abounded previously to their appearance, have nearly disappeared. I am, Sir, &c.,

W. C.

*** Cajeput oil has been found effectual for destroying the red ant in timber.

NEW TRAP FOR HOUSE DRAINS.

Sir,—My attention having been directed to a letter at p. 477 in your journal, from Mr. Lamb, respecting the improved drain-trap at p. 463, I have to state in reply thereto, that I cannot acknowledge having formed the trap in question from any description of his, for the following reasons:—first, because I have built and recommended others to build, for several years past, traps of the same form in brick-work; and secondly, because I have never seen the description alluded to, signed Z. Z.

A hint for the formation of this trap was given by me in The Builder some time last year.—I am, Sir, &c. John Phillips.

London, Oct. 13th, 1846.

Miscellanea.

Haarlem Lake to be Drained in Thirteen Months.—The *Leeghwater* engine, made by the Cornish manufacturers, Messrs. Harvey, of Hayle, and Fox, of Perran, from the design by Messrs. Gibbs and Dean, of Westminster, the engineers to the Haarlemmeer Commissioners, has given so much satisfaction since its erection last year, that two other engines, equalled in dimensions by none in the world besides the gigantic *Leeghwater—par excellence* "the drier up of water"—are in course of formation by the same parties. These are not so immense in power and dimensions as the first, which discharges nearly 1,000,000 tons of water in the twenty-four hours, from eleven pumps, 63 inches in diameter. But though only provided with eight pumps each, the diameter is greater, namely, 73 inches; and when all three are at work they will discharge 2,800,000 tons of water every twenty-four hours; or, since the lake covers an area of seventy square miles, and is estimated to contain 1,000,000,000 tons of water, the whole quantity will be discharged in about thirteen months! The expenditure of fuel by the Leeghwater is found in practice to be extremely small, being reduced to 2¼ pounds per net horse-power per hour, instead of the usual average of fifteen pounds, and even twenty to twenty-five pounds. The cost of engines, fuel, buildings, and workmen will be 140,000*l.*, while, as shewn by the *Mining Journal*, the cost by the old system of engines would have exceeded 240,000*l.*, and the work have taken four years to complete.

Artists' Studies in British Museum.—The *Westminster Review* says, when inquiring into the efficiency of certain commissions—"we would not lose this opportunity of drawing the attention of the Commissioners of the Fine Arts to the new regulations at the British Museum, by which artists are now forbidden to copy in chalk or colours effects of light and shade, for the study of which in the works of Rembrandt, &c., they were formerly in the habit of resorting to the print room. Whether this prohibition arises out of economy on the part of the trustees in not providing a sufficient number of superintendents to prevent the works being damaged, or from somebody's friend being put into office who may care nothing for the progress of art, but much about saving himself the trouble, the fact that such a prohibition exists says but little for high patronage, or for the public spirit of the guardians of a national institution.

Purification of Gas.—Mr. Johnston's patent for the absorption of the ammoniacal, hydro-sulphuric, and hydro-cyanic vapours, by means of sulphate of iron, in the dry way, or with barely sufficient moisture for the water of crystallization necessary in the interchange and formation of the salts, has been tried at the Horseferry-road station of the Chartered Gas Company. Besides the purification, and the saving of 30 per cent. of lime (at the greater, though redeemed expense, of sulphate of iron, we presume), by this new mode of treatment, other alleged advantages, consequent on its adoption, are the reduction of the gross pressure of the liquid mode by 40 to 50 per cent., and the equivalent diminution of the consequent loss; besides the acquisition of the valuable products.

Oak.—The largest piece of oak timber ever seen in Brecon passed through the town to the canal on Monday last. It was cut in the woods of the late W. Vaughan, Esq., of Penymaes, and contained 230 feet of timber; two carriages broke under its weight, and it was at length conveyed on rollers over the pitching of the streets, by the united efforts of sixteen horses and a number of men.—*Silurian.*

The *Journal du Havre* states that, on the night of Monday last, the greatest part of the wall of the quay of the new dock at Honfleur, which has not yet been opened, was forced down by the water getting in between the wall and the earth.

SYSTEMATIC DRAINAGE OF TOWNS.—The want of proper drainage in Leamington having become apparent, Professor Hosking was requested to advise as to the best means of providing it, and has accordingly submitted a report on the subject. We shall probably refer to it.

TENDER.

For building two houses in the Fulham-road, Mr. Wallen, Architect.

John Jay	£2,779
Rd. Ashby	2,732
Symes and Son	2,300
Fredk. Faulkner	2,236
John Glen	2,197
Saml. Cundy	2,181
Rd. Dean	2,100
J. and W. Hawke	2,087
John Wilson	1,993

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we have in deference to their wishes, omitted them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

When it is understood by the Board that our list is simply an index to advertisements, which, having appeared in other papers, have paid duty, and are inserted solely for the convenience of our readers, and not for the benefit of advertisers, or for our own profit, excepting so far as results from increasing the usefulness of our paper, we are disposed to think the objection, even if it can be legally maintained, will be withdrawn. We hope that the question will be settled before the appearance of our next number.

TO CORRESPONDENTS.

"*Club Chambers for the Married.*"—Is the writer of the article under this head willing to be put in communication with one interested in the subject?

"*St. Giles's, Camberwell.*"—Fresh complaints have reached us against the removal of paintings and the attempt to take out one of the stained-glass windows. We are not yet in possession of the facts of the case.

"*Wood Carving Works.*"—We will endeavour to call.

"*Bond Timber Jack.*"—We cannot invite any assistance to a scheme anonymously recommended.

"*C. D.*"—We must know something of the material before quoting any praise of it.

"*Market Cross, Glastonbury.*"—We shall be glad to see a view of the new cross.

"*J. R. N.*"—The historical notes should be pithy. Churches possessing architectural peculiarities or beauties should be chosen.

"*O.V.*"—A drawing of the Gates of Somnauth with ample details by Mr. C. J. Richardson, is given in the "Archæologia," Vol. XXX., p. 174. They do not seem to present any symbols, and are, in truth, much more modern in appearance than their asserted date.

"*Col. M.*" next week.

Received.—"A Citizen," "H. J.," "A Subscriber to the Builder," "F. T.," "W. J. V.," "H. P.," "Honesty," "H. W. Y.," "Inquisitor."

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—Our next number will contain an elaborate view and ample details of the "Taylor and Randolf Buildings" in Oxford. Early orders should be given to prevent disappointment.

ADVERTISEMENTS.

A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary and Vein, some of which are suitable for Drawing-rooms, &c., and some of moderate dimensions, suitable for second and third-rate houses; also two Monumental Tablets, TO BE SOLD CHEAP, under peculiar circumstances.—Apply, 34, Chichester-place, King's Cross.

N.B. Approved bills at three or six months, according to the amount.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MERIONETHSHIRE SLATE AND SLATE SLAB COMPANY (Provisionally Registered pursuant to Act of Parliament 7 & 8 Vict. chap. 110). Capital 50,000*l.* in 5,000 shares of 10*l.*

A Company has been formed for the purpose of supplying, at greatly reduced prices, a sufficient quantity of Slate Slab of the very best description to meet the daily increasing demand. The objects of the company are fully detailed in the prospectuses, applications for which and for the remaining shares may be made to the manager at the Temporary Offices of the Company, 7, Copthall-court, London, or to Mr. THOMAS, Mining Agent, 61, Old Broad-street.

R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cash only.

GAS LIGHTING.—Churches, Factories, Railway-stations, Offices, &c., &c., fitted up for Gas with the very best materials and workmanship. Every description of Gas-lamp Furniture Manufactured on the Premises. Estimates given, and Suitable Patterns, or Drawings submitted.

JOHNSON, Brothers, Gas Apparatus Manufacturers, 9, Cursetor-street, London.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s. 0d.
Seconds	,,	25 0
Thirds	,,	23 0
Linseed Oil	per gallon	2 3
Turpentine	,,	4 6
Putty	per cwt.	7 6
Patent Dryers	,,	36 0
Oxford Oker	,,	36 0
Varnishes equalled by none:		
Fine Oak	per gallon	10s.
,, Carriage	,,	12
,, Copal	,,	18
,, Body Copal	,,	24
,, Gold Size	,,	10
,, Black Japan	,,	10

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the Office of "THE BUILDER," 2, York-street, Covent Garden, London; Hodkinson, Widemarsh-street, Hereford; R. Sutton, "Review Office," Nottingham; H. Wills, 39, High-street, Lynn; and in Manchester, at Crake's Marble Works, Garratt-bridge. In bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N.B. The Trade supplied.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

Advantageous to Timber Merchants, Builders, Coopers, and others, who may require Timber to be sawn.

THE PATENT SAWING COMPANY beg to call the attention of parties in the above trades to the advantages which their Mills offer as regards charges, and the saving of expense in carriage, being situate close to the Grand Surrey Canal Docks, in Rotherhithe. They solicit a trial, and hope to obtain a share of patronage by a strict attention to all orders intrusted to their care. Letters addressed to the office, No. 5, Church-court, Clement's-lane, City, will be promptly attended to.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

TEMPLETON'S IRON GAUNTLET.

TO all who use the Hammer and Chisel, as Sculptors, Masons, Wood-carvers, Engravers, for clean and finished cutting in marble or stone, use TEMPLETON'S IRON GAUNTLET, now used by some of the best artists and tradesmen in London. Price Three Shillings.—Apply to R. TEMPLETON, 16, Wellesley-street, Seymour-street, Euston-square.

Carved-work, in Stone or Marble, contracted for.

PATENT GALVANISED TINNED IRON. (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

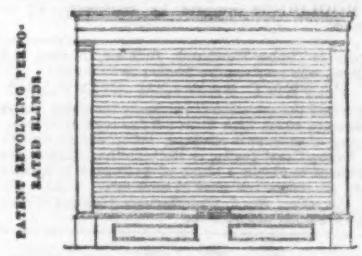
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

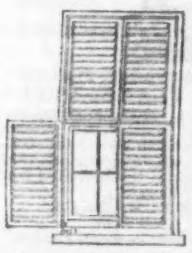
Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

BRICKS.—Superior White Facing Bricks (called Suffolk Bricks), and hard Stable Paviors, &c., may be had at W. and S. WRIGHT'S Brick and Tile Manufactory, Hanwell, Middlesex. Moulded Bricks and Tiles made to order on the shortest notice, and on liberal terms.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Milbank.

N.B. Country Orders promptly attended to.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Memorial Crosses, Mural and other Monuments.

BOX CHIMNEY PIECES from Twelve Shillings upwards. Depôt for Caen and other Stones

N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving squared, jambs, mantles, sills, slate shelves, &c. &c.—Estimates given for new buildings and repairs generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 32s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 9d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 9d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRONFOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

RIVER SAND AND GRAVEL SUPPLIED IN BARGE.

R. DOWNEY AND SON, Licensed Lightermen and Pile Drivers, of No. 11, Millbank-row, Westminster, beg respectfully to inform Builders, Contractors, Lime-merchants, and others, that they have added to their before considerable stock of Barges, other two large Sand-getting Craft. They have now every facility to execute large Sand orders, and solicit patronage, promising to give due attention to punctuality and quality of material.

It is intended this advertisement appear four times from Oct. 10th.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

PATENT METALLIC SAND, or ENGLISH POZZOLANO.—The Proprietors of the Metallic Sand, after many years' experience of its merits, confidently recommend it to the attention of Engineers, Architects, Builders, and the public generally, as an invaluable article for Hydraulic and other Works requiring great strength and durability.

In analysis, the metallic sand is very similar to the Italian Pozzolano, the value of which in all subaqueous works is so well known to engineers and architects; but from its granular form, and the sharpness of its angles, and the increased quantity of iron it contains, the metallic sand has been found more durable, and much cheaper than any other similar material at present in use.

From its chemical qualities it forms, in admixture with lime and common sand, a cement, mortar, or concrete, of flinty hardness, and almost entire incompressibility; and from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes. In the formation of mortar and concrete, it has been extensively used in the great tunnels on the London and Birmingham Railway, in the foundations of the New Houses of Parliament, sea walls on the North Devon Railway, Clifton Reservoirs, and other works of importance.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone; requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street; and at the Metallic Cement Wharf, King's Road (opposite Pratt-street), Camden New Town, London.

Analysis of the Patent Metallic Sand.

Silica	49	Lime	6
Oxide of iron	32	Magnesia	2
Alumina	6	Zinc	3

Arsenic and carbonate of copper 2